CLAIMS:

1. A hybrid structural module comprising:

a tubular fibre composite member;

a filled resin system located within said tubular fibre composite member; and

at least one elongated steel member located within the filled resin system;

wherein the filled resin system binds the steel member and tubular member together.

2. The hybrid structural module of claim 1 wherein the tubular fibre composite member is a pultruded member.

3. The hybrid structural module of claim 2 wherein the pultruded member is rectangular or square in transverse cross-section.

4. The hybrid structural module of claim 1 wherein an internal void of the tubular member is square, rectangular or circular.

5. The hybrid structural module of claim 1 wherein the tubular fibre composite member has the majority of its fibres orientated in a longitudinal direction.

6. The hybrid structural module of claim 1 wherein the resin in the filled resin system is a polyester, vinylester, polyurethane or epoxy resin.

7. The hybrid structural module of claim 1 wherein the filled resin system adheres to both the steel and the tubular fibre composite member.

8. The hybrid structural module of claim 1 wherein a filler of the filled resin system is inert.

9. The hybrid structural module of claim 1 wherein a filler of the filled resin system has compression strength of between 20MPa and 60Mpa.

10. The hybrid structural module of claim 1 wherein the filled resin system includes a light aggregate and a heavy aggregate.

11. The hybrid structural module of claim 10 wherein the light aggregate has a specific gravity less than that of the resin.

12. The hybrid structural module of claim 10 wherein the light aggregate has a specific gravity of 0.5 to 0.9.

13. The hybrid structural module of claim 10 wherein the light aggregate makes up 20-25% by volume of the filled resin system.

14. The hybrid structural module of claim 10 wherein the light aggregate is centre spheres.

15. The hybrid structural module of claim 14 wherein the centre spheres have a specific gravity of approximately 0.7, a nominal particle size range between 20-300 microns, and compression strength of approximately 40MPa.

16. The hybrid structural module of claim 10 wherein the light aggregate is hollow glass micro spheres.

17. The hybrid structural module of claim 10 wherein the heavy aggregate has a specific gravity larger than that of the resin.

18. The hybrid structural module of claim 10 wherein the heavy aggregate usually makes up 40-60% by volume of the filled resin system.

19. The hybrid structural module of claim 18 wherein the heavy aggregate is basalt.

20. The hybrid structural module of claim 19 wherein the basalt has a particle size of between 1 to 7 mm.

21. The hybrid structural module of claim 19 wherein the basalt makes up to between 40-50% by volume of the filled resin system.

22. The hybrid structural module of claim 19 wherein the basalt has a specific gravity of approximately 2.8.

23. The hybrid structural module of claim 10 wherein the resin contains a thixotrope.

24. The hybrid structural module of claim 1 wherein the steel member is a round or deformed bar, threaded rod or tendon (cable).

24. The hybrid structural module of claim 1 wherein the steel member has a yield strain of approximately 0.25%, and a failure strain in excess of 2%.

25. The hybrid structural module of claim 1 wherein the steel member is plain carbon steel, galvanised steel, or stainless steel.

26. The hybrid structural module of claim 1 wherein the steel

member is slighter shorter than the length of the tubular fibre composite member.

27. The hybrid structural module of claim 1 wherein the tubular member is completely filled with the filled resin system.

28. The hybrid structural module of claim 1 wherein the steel member is totally encompassed by the filled system.

29. The hybrid structural module of claim 1 wherein the steel member extends outwardly from the tubular member and the resin system.

30. The hybrid structural module of claim 1 wherein there are multiple steel members.

31. The hybrid structural module of claim 30 wherein the multiple steel members are spaced substantially an equal distance away from each other.

32. The hybrid structural module of claim 1 wherein the steel member is prestressed prior to the hybrid member being formed.

33. A method of forming a hybrid structural module, the method including the steps of:

forming a tubular fibre composite member;

locating at least one longitudinal steel member within the tubular fibre composite member; and

locating a filled resin system within the tubular fibre composite member so the filled resin system binds the steel member and tubular member together.

34. The method of claim 33 wherein an internal void of the tubular fibre composite members of claim 33 is sanded or abraded before filled resin system is located within the tubular member.

35. The method of claim 33 wherein the steel member is cleaned with a solvent and/or etched prior to the steel member being located within the tubular member.

36. The method of claim 33 wherein the steel member is lowered into the tubular fibre composite module and resin is poured into the module to fill the void.

37. The method of claim 33 wherein the filled resin is poured into the tubular fibre composite member, and the steel member is lowered into the tubular fibre composite member.